

Politics

Protesters' idling trucks are making downtown Ottawa's air quality worse

Measurements of one air pollutant hit a level more than 14 times higher than the average for Ottawa

[Sarah Sears](#) · CBC News · Posted: Feb 10, 2022 4:00 AM ET | Last Updated: February 10



Dozens of trucks have been idling in downtown Ottawa for nearly two weeks as demonstrations against pandemic measures continue. (Mike Cole/CBC News)

Fumes from anti-vaccine mandate protesters' trucks and smoke from their barbecues and campfires is damaging air quality in downtown Ottawa.

Local resident Bonnie Charette said she wears a mask outside downtown — partly as a COVID-19 precaution and partly because of what she calls the "stench" in the air.

"The smell is disgusting," she said.

Abby Donald, who lives in an area where trucks line the streets, agrees.

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"I hate breathing it in," she said. "I walk into my apartment and I smell like it."

Paul Villeneuve, an environmental epidemiologist at Carleton University, said diesel engine emissions contain a number of harmful substances.

"Those include things like arsenic, formaldehyde, benzene, and many of these have been shown to cause cancer and affect the cardiorespiratory system," he said.

Diesel emissions contain known pollutants like nitrogen dioxide (NO₂) — which can irritate the nose and throat — and fine particulate matter known as PM 2.5.

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Carleton University epidemiologist Paul Villeneuve describes some of the hazardous materials found in diesel emissions.

'Noxious pollutant'

"PM 2.5 is is a noxious pollutant," said Douw Steyn, an atmospheric science expert and professor emeritus of air pollution meteorology at the University of British Columbia.

"Particles of that size tend to lodge deep inside your lungs ... and ultimately, with long term inhalation, can produce serious health effects."

Experts suggest that, in the short term, exposure to elevated levels of these particles can aggravate respiratory conditions like asthma.

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'That is a well polluted atmosphere,' expert says

Atmospheric science expert Douw Steyn reacts to the elevated air pollution levels CBC News recorded in downtown Ottawa.

Ontario's Ministry of the Environment, Conservation and Parks releases hourly readings for those fine particles and other pollutants taken at 39 ambient air monitoring testing stations provincewide. The downtown Ottawa monitoring location is about two kilometres from the Parliamentary precinct, where hundreds of vehicles are parked and idling.

The station's publicly-available readings show slightly elevated concentrations of pollutants compared to before the protest. Villeneuve said the average PM 2.5 reading for Ottawa is six micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

Two volunteer-run projects — one operated by the Sierra Club Canada — regularly sample air quality across Ottawa. Monitoring is suspended during the protest for safety reasons, but CBC News borrowed one of the monitors' devices to gather air quality data. The devices test for several pollutant particles, including PM 2.5.

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CBC News took various air quality measures around the downtown core near where trucks and other vehicles were parked and idling. Measurements for PM 2.5 ranged from four to eight times higher than normal for the area.

Those readings are much higher than those typically seen across Canada.

"The annual average for Canadian citizens is around eight micrograms per metre cubed," said Villeneuve. "When we start to see concentrations that are above 50 micrograms per metre cubed, those are particularly harmful."

The highest reading was taken at Laurier Ave. West, between Bank St. and Kent St. — an area with a mixture of high-rise buildings where there were no idling vehicles along the street.

The 'urban canyon' effect

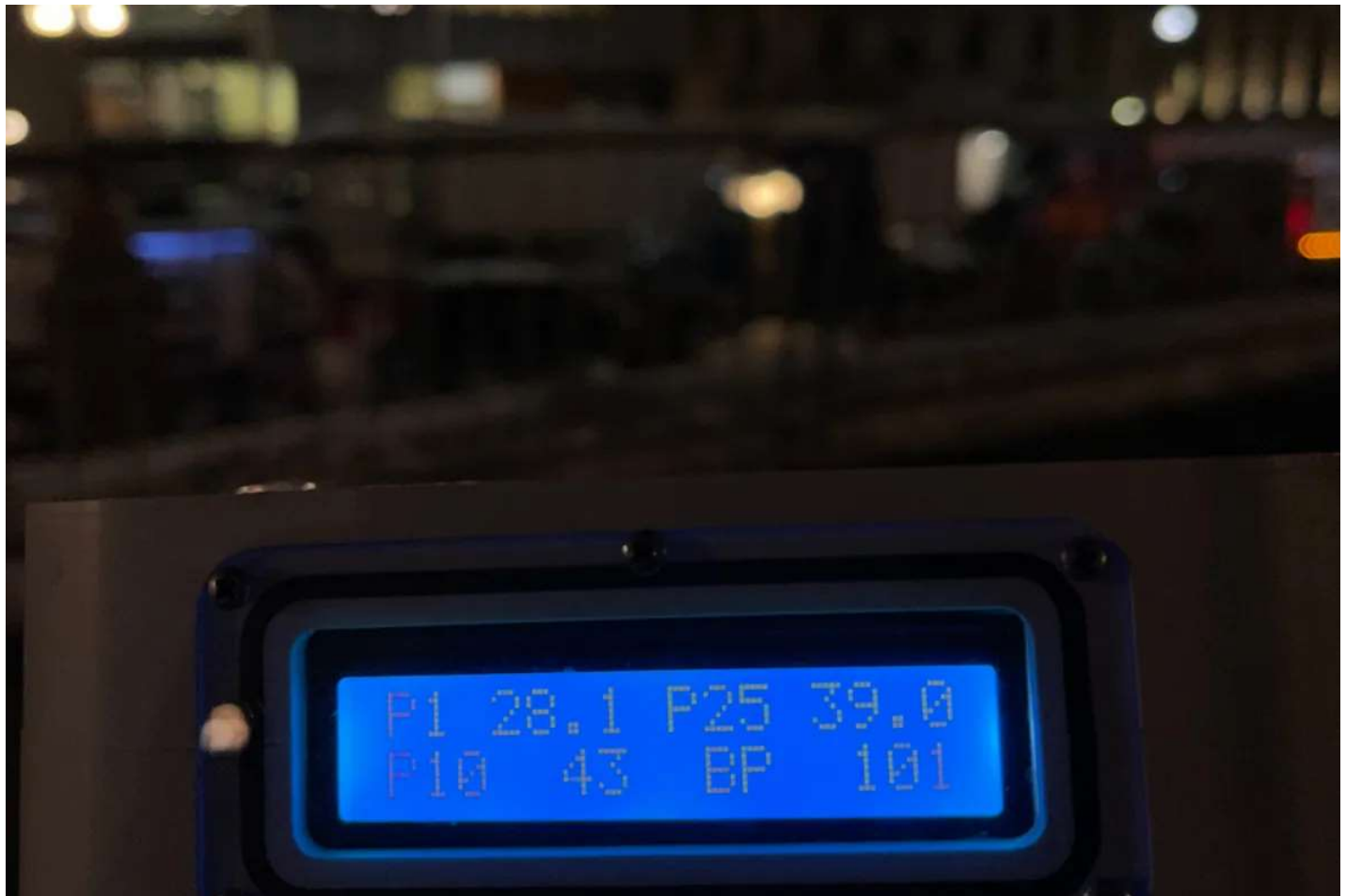
Steyn said pollutants could be pooling in that area because of what he called an "urban canyon" effect.

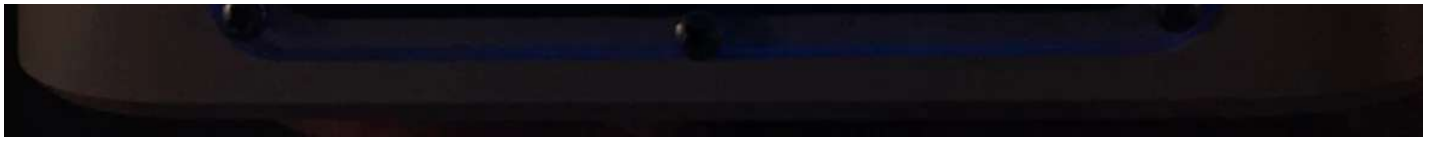
"Unless there is very high wind, the pollutants are going to be trapped there," he said. "And of course, that is where people live and move and breathe."

Many factors can influence air quality, including cloud cover, wind and temperature. On the day CBC News took the readings, there was heavy cloud cover and low winds in downtown Ottawa, with a high of -2°C. Those atmospheric factors can cause atmospheric pollutants to linger at higher concentrations in a certain area.

Environment and Climate Change Canada estimates air pollution contributes to 15,000 premature deaths each year.

Jake Cole is a volunteer who led the Sierra Club's Breathe Easy Project. He said the highest PM 2.5 reading he's seen downtown was around 25 $\mu\text{g}/\text{m}^3$ — nowhere near as high as the readings CBC registered using the same device. Cole said the elevated PM 2.5 readings suggest an increased presence of other air pollutants.





An air quality meter shows elevated pollution levels on Parliament Hill on February 7, 2022. (Sarah Sears/CBC News)

Measurements gathered by CBC ranged from among the highest Cole has ever seen before the current protests — 25.9 $\mu\text{g}/\text{m}^3$ along the Sparks Street pedestrian mall — to 76.0 $\mu\text{g}/\text{m}^3$ at the corner of Wellington and Elgin, where trucks lined the street. The highest reading was 86.4 $\mu\text{g}/\text{m}^3$ — more than 14 times higher than the average for Ottawa.

Cole warns that even limiting time outside won't protect residents from the polluted air.

"It doesn't take long before that outside air can permeate," said Cole. "So all the indoor air in that area would probably be the same ... level of contaminated air."

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